

ABSTRACT

A method for improving the measurement of semiconductor wafers is disclosed. In the past, the repeatability of measurements was adversely affected due to the unpredictable growth of a layer of contamination over the intentionally deposited dielectric layers.

- 5 Repeatability can be enhanced by removing this contamination layer prior to measurement. This contamination layer can be effectively removed in a non-destructive fashion by subjecting the wafer to a cleaning step. In one embodiment, the cleaning is performed by exposing the wafer to microwave radiation. Alternatively, the wafer can be cleaned with a radiant heat source. These two cleaning modalities can be used alone or in combination with
- 10 each other or in combination with other cleaning modalities. The cleaning step may be carried out in air, an inert atmosphere or a vacuum. Once the cleaning has been performed, the wafer can be measured using any number of known optical measurement systems.